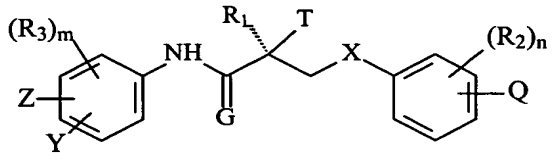
WHAT IS CLAIMED IS:

1. A selective androgen receptor modulator (SARM) compound represented by the structure of formula I:



I

X is a bond, O, CH_2, NH, S, Se, PR, NO or NR;

G is O or S;

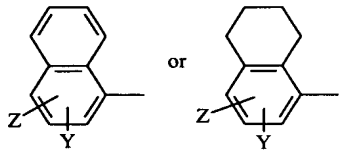
T is OH, OR, -$NHCOCH_3$, or NHCOR;

R is alkyl, haloalkyl, dihaloalkyl, trihaloalkyl, CH_2F, CHF_2, CF_3, CF_2CF_3, aryl, phenyl, halogen, alkenyl or OH;

R_1 is CH_3, CH_2F, CHF_2, CF_3, CH_2CH_3, or CF_2CF_3;

R_2 is F, Cl, Br, I, CH_3, CF_3, OH, CN, NO_2, $NHCOCH_3$, $NHCOCF_3$, NHCOR, alkyl, arylalkyl, OR, NH_2, NHR, NR_2, SR;

R_3 is F, Cl, Br, I, CN, NO_2, COR, COOH, CONHR, CF_3, SnR_3, or R_3 together with the benzene ring to which it is attached forms a fused ring system represented by the structure:



Z is NO_2, CN, COR, COOH, or CONHR;

Y is CF_3, F, Br, Cl, I, CN, or SnR_3;

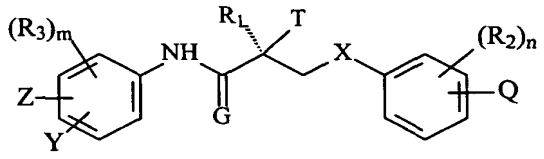
Q is N_3 or $NHCOCH_2Hal$;

Hal is halogen;

n is an integer of 1-4; and

m is an integer of 1-3.

2. A selective androgen receptor modulator (SARM) compound represented by the structure of formula I:



I

X is a bond, O, CH_2, NH, S, Se, PR, NO or NR;

G is O or S;

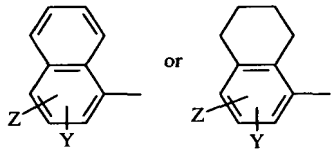
T is OH, OR, -$NHCOCH_3$, or NHCOR;

R is alkyl, haloalkyl, dihaloalkyl, trihaloalkyl, CH_2F, CHF_2, CF_3, CF_2CF_3, aryl, phenyl, halogen, alkenyl or OH;

R_1 is CH_3, CH_2F, CHF_2, CF_3, CH_2CH_3, or CF_2CF_3;

R_2 is F, Cl, Br, I, CH_3, CF_3, OH, CN, NO_2, $NHCOCH_3$, $NHCOCF_3$, NHCOR, alkyl, arylalkyl, OR, NH_2, NHR, NR_2, SR;

R_3 is F, Cl, Br, I, CN, NO_2, COR, COOH, CONHR, CF_3, SnR_3, or R_3 together with the benzene ring to which it is attached forms a fused ring system represented by the structure:



Z is NO_2, CN, COR, COOH, or CONHR;

Y is CF_3, F, Br, Cl, I, CN, or SnR_3;

Q is N_3 or $NHCOCH_2Hal$;

Hal is halogen;

n is an integer of 1-4; and

m is an integer of 1-3;

or its analog, isomer, metabolite, derivative, pharmaceutically acceptable salt, pharmaceutical product, N-oxide, hydrate or any combination thereof.

3. The compound according to claim 1, wherein G is O.

4. The compound according to claim 1, wherein T is OH.

5. The compound according to claim 1, wherein R_1 is CH_3.

6. The compound according to claim 1, wherein X is O.

7. The compound according to claim 1, wherein Z is NO_2.

8. The compound according to claim 1, wherein Z is CN.

9. The compound according to claim 1, wherein Y is CF_3.

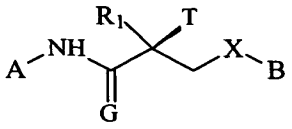
10. The compound according to claim 1, wherein Q is $NHCOCH_2Cl$.

11. The compound according to claim 1, wherein Q is $NHCOCH_2Cl$.

12. The compound according to claim 1, wherein Q is N_3.

13. The compound according to claim 1, wherein said compound is an alkylating agent.

14. A selective androgen receptor modulator (SARM) compound represented by the structure of formula II:



II

wherein X is a bond, O, CH_2, NH, S, Se, PR, NO or NR;

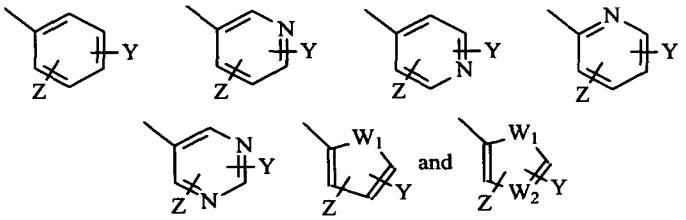
G is O or S;

R_1 is CH_3, CH_2F, CHF_2, CF_3, CH_2CH_3, or CF_2CF_3;

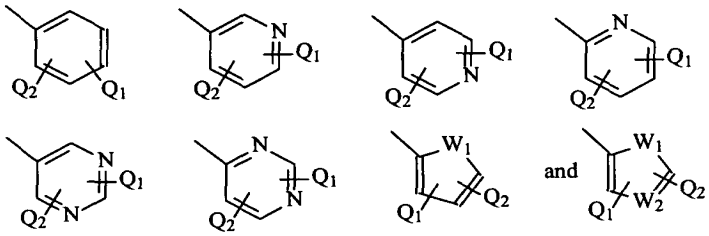
T is OH, OR, -$NHCOCH_3$, or NHCOR;

R is alkyl, haloalkyl, dihaloalkyl, trihaloalkyl, CH_2F, CHF_2, CF_3, CF_2CF_3, aryl, phenyl, halogen, alkenyl or OH;

A is a ring selected from:



B is a ring selected from:



wherein A and B cannot simultaneously be a benzene ring;

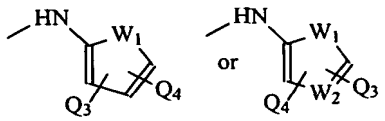
Z is NO_2, CN, COOH, COR, NHCOR or CONHR;

Y is CF_3, F, I, Br, Cl, CN CR_3 or SnR_3;

Q_1 is N_3 or $NHCOCH_2Hal$;

Hal is halogen;

Q_2 is a hydrogen, alkyl, halogen, CF_3, CN CR_3, SnR_3, NR_2, $NHCOCH_3$, $NHCOCF_3$, NHCOR, NHCONHR, NHCOOR, OCONHR, CONHR, $NHCSCH_3$, $NHCSCF_3$, NHCSR $NHSO_2CH_3$, $NHSO_2R$, OR, COR, OCOR, OSO_2R, SO_2R, SR,

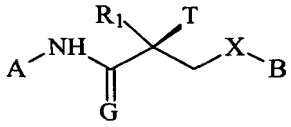


Q_3 and Q_4 are independently of each other a hydrogen, alkyl, halogen, CF_3, CN CR_3, SnR_3, NR_2, $NHCOCH_3$, $NHCOCF_3$, NHCOR, NHCONHR, NHCOOR, OCONHR, CONHR, $NHCSCH_3$, $NHCSCF_3$, NHCSR $NHSO_2CH_3$, $NHSO_2R$, OR, COR, OCOR, OSO_2R, SO_2R or SR;

W_1 is O, NH, NR, NO or S; and

W_2 is N or NO.

15. A selective androgen receptor modulator (SARM) compound represented by the structure of formula II:



II

wherein X is a bond, O, CH_2, NH, S, Se, PR, NO or NR;

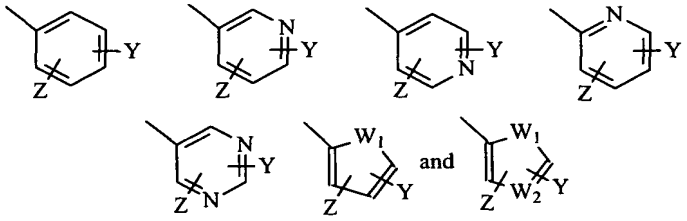
G is O or S;

R_1 is CH_3, CH_2F, CHF_2, CF_3, CH_2CH_3, or CF_2CF_3;

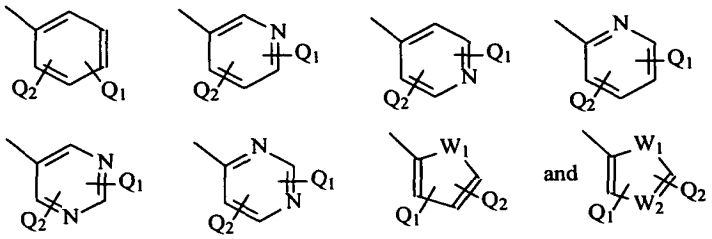
T is OH, OR, -$NHCOCH_3$, or NHCOR;

R is alkyl, haloalkyl, dihaloalkyl, trihaloalkyl, CH_2F, CHF_2, CF_3, CF_2CF_3, aryl, phenyl, halogen, alkenyl or OH;

A is a ring selected from:



B is a ring selected from:



wherein A and B cannot simultaneously be a benzene ring;

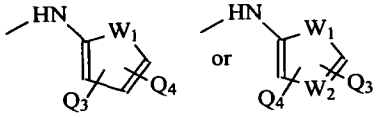
Z is NO_2, CN, COOH, COR, NHCOR or CONHR;

Y is CF_3, F, I, Br, Cl, CN CR_3 or SnR_3;

Q_1 is N_3 or $NHCOCH_2Hal$;

Hal is halogen;

Q_2 is a hydrogen, alkyl, halogen, CF_3, CN CR_3, SnR_3, NR_2, $NHCOCH_3$, $NHCOCF_3$, NHCOR, NHCONHR, NHCOOR, OCONHR, CONHR, $NHCSCH_3$, $NHCSCF_3$, NHCSR $NHSO_2CH_3$, $NHSO_2R$, OR, COR, OCOR, OSO_2R, SO_2R, SR,



Q_3 and Q_4 are independently of each other a hydrogen, alkyl, halogen, CF_3, CN CR_3, SnR_3, NR_2, $NHCOCH_3$, $NHCOCF_3$, NHCOR, NHCONHR, NHCOOR, OCONHR, CONHR, $NHCSCH_3$, $NHCSCF_3$, NHCSR $NHSO_2CH_3$, $NHSO_2R$, OR, COR, OCOR, OSO_2R, SO_2R or SR;

W_1 is O, NH, NR, NO or S; and

W_2 is N or NO;

or its analog, isomer, metabolite, derivative, pharmaceutically acceptable salt, pharmaceutical product, N-oxide, hydrate or any combination thereof.

16. The compound according to claim 14, wherein G is O.

17. The compound according to claim 14, wherein T is OH.

18. The compound according to claim 14, wherein R_1 is CH_3.

19. The compound according to claim 14, wherein X is O.

20. The compound according to claim 14, wherein Z is NO_2.

21. The compound according to claim 14, wherein Z is CN.

22. The compound according to claim 14, wherein Y is CF_3.

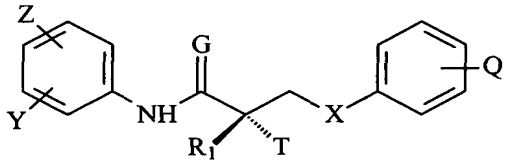
23. The compound according to claim 14, wherein Q_1 is $NHCOCH_2Cl$.

24. The compound according to claim 14, wherein Q_1 is $NHCOCH_2Cl$.

25. The compound according to claim 14, wherein Q_1 is N_3.

26. The compound according to claim 14, wherein said compound is an alkylating agent.

27. A selective androgen receptor modulator (SARM) compound represented by the structure of formula III:



III

wherein X is a bond, O, CH_2, NH, S, Se, PR, NO or NR;

G is O or S;

T is OH, OR, -$NHCOCH_3$, or NHCOR

Z is NO_2, CN, COOH, COR, NHCOR or CONHR;

Y is CF_3, F, I, Br, Cl, CN, CR_3 or SnR_3;

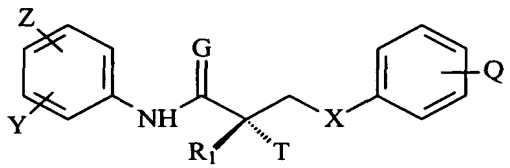
Q is N_3 or $NHCOCH_2Hal$;

Hal is halogen;

R is alkyl, haloalkyl, dihaloalkyl, trihaloalkyl, CH_2F, CHF_2, CF_3, CF_2CF_3, aryl, phenyl, halogen, alkenyl or OH; and

R_1 is CH_3, CH_2F, CHF_2, CF_3, CH_2CH_3, or CF_2CF_3.

28. A selective androgen receptor modulator (SARM) compound represented by the structure of formula III:



III

wherein X is a bond, O, CH_2, NH, S, Se, PR, NO or NR;

G is O or S;

T is OH, OR, -$NHCOCH_3$, or NHCOR

Z is NO_2, CN, COOH, COR, NHCOR or CONHR;

Y is CF_3, F, I, Br, Cl, CN, CR_3 or SnR_3;

Q is N_3 or $NHCOCH_2Hal$;

Hal is halogen;

R is alkyl, haloalkyl, dihaloalkyl, trihaloalkyl, CH_2F, CHF_2, CF_3, CF_2CF_3, aryl, phenyl, halogen, alkenyl or OH; and

R_1 is CH_3, CH_2F, CHF_2, CF_3, CH_2CH_3, or CF_2CF_3;

or its analog, isomer, metabolite, derivative, pharmaceutically acceptable salt, pharmaceutical product, N-oxide, hydrate or any combination thereof.

29. The compound according to claim 27, wherein G is O.

30. The compound according to claim 27, wherein T is OH.

31. The compound according to claim 27, wherein R_1 is CH_3.

32. The compound according to claim 27, wherein X is O.

33. The compound according to claim 27, wherein Z is NO_2.

34. The compound according to claim 27, wherein Z is CN.

35. The compound according to claim 27, wherein Y is CF_3.

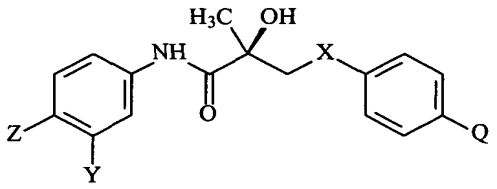
36. The compound according to claim 27, wherein Q is $NHCOCH_2Cl$.

37. The compound according to claim 27, wherein Q is $NHCOCH_2Cl$.

38. The compound according to claim 27, wherein Q is N_3.

39. The compound according to claim 27, wherein said compound is an alkylating agent.

40. The compound according to claim 27, represented by the structure of formula IV:



IV

41. A composition comprising the selective androgen receptor modulator compound of claim 1, 14, 27 or 40 and/or its analog, derivative, isomer, metabolite, pharmaceutically acceptable salt, pharmaceutical product, hydrate or N-oxide or any combination thereof; and a suitable carrier or diluent.

42. A pharmaceutical composition comprising an effective amount of the selective androgen

receptor modulator compound of claim 1, 14, 27 or 40 and/or its analog, derivative, isomer, metabolite, pharmaceutically acceptable salt, pharmaceutical product, hydrate or N-oxide or any combination thereof; and a pharmaceutically acceptable carrier, diluent or salt.

43. A method of suppressing spermatogenesis in a subject comprising administering to said subject with the selective androgen receptor modulator compound of claim 1, 14, 27 or 40 and/or its analog, derivative, isomer, metabolite, pharmaceutically acceptable salt, pharmaceutical product, hydrate or N-oxide or any combination thereof, in an amount effective to suppress sperm production.

44. A method of contraception in a male subject, comprising the step of administering to said subject the selective androgen receptor modulator compound of claim 1, 14, 27 or 40 and/or its analog, derivative, isomer, metabolite, pharmaceutically acceptable salt, pharmaceutical product, hydrate or N-oxide or any combination thereof, in an amount effective to suppress sperm production in said subject, thereby effecting contraception in said subject.

45. A method of hormone therapy comprising the step of administering to said subject the selective androgen receptor modulator compound of claim 1, 14, 27 or 40 and/or its analog, derivative, isomer, metabolite, pharmaceutically acceptable salt, pharmaceutical product, hydrate or N-oxide or any combination thereof, in an amount effective to effect a change in an androgen-dependent condition.

46. A method of hormone replacement therapy comprising the step of administering to said subject the selective androgen receptor modulator compound of claim 1, 14, 27 or 40 and/or its analog, derivative, isomer, metabolite, pharmaceutically acceptable salt, pharmaceutical product, hydrate or N-oxide or any combination thereof, in an amount effective to effect a change in an androgen-dependent condition.

47. A method of preventing prostate cancer in a subject, comprising the step of administering to said subject the selective androgen receptor modulator compound of claim 1, 14, 27 or 40 and/or its analog, derivative, isomer, metabolite, pharmaceutically acceptable salt, pharmaceutical product, hydrate or N-oxide or any combination thereof, in an amount effective to prevent prostate cancer in said subject.

48. A method of treating a subject having a hormone related condition, comprising the step of administering to said subject the selective androgen receptor modulator compound of claim 1, 14, 27 or 40 and/or its analog, derivative, isomer, metabolite, pharmaceutically acceptable salt, pharmaceutical product, hydrate or N-oxide or any combination thereof, in an amount effective to effect a change in an androgen-dependent condition.

49. A method of treating a subject suffering from prostate cancer, comprising the step of administering to said subject the selective androgen receptor modulator compound of claim 1, 14, 27 or 40 and/or its analog, derivative, isomer, metabolite, pharmaceutically acceptable salt, pharmaceutical product, hydrate or N-oxide or any combination

thereof, in an amount effective to treat prostate cancer in said subject.

50. A method of delaying the progression of prostate cancer in a subject suffering from prostate cancer, comprising the step of administering to said subject the selective androgen receptor modulator compound of claim 1, 14, 27 or 40 and/or its analog, derivative, isomer, metabolite, pharmaceutically acceptable salt, pharmaceutical product, hydrate or N-oxide or any combination thereof, in an amount effective to delay the progression of prostate cancer in said subject.

51. A method of preventing the recurrence of prostate cancer in a subject suffering from prostate cancer, comprising the step of administering to said subject the selective androgen receptor modulator compound of claim 1, 14, 27 or 40 and/or its analog, derivative, isomer, metabolite, pharmaceutically acceptable salt, pharmaceutical product, hydrate or N-oxide or any combination thereof, in an amount effective to prevent the recurrence of prostate cancer in said subject.

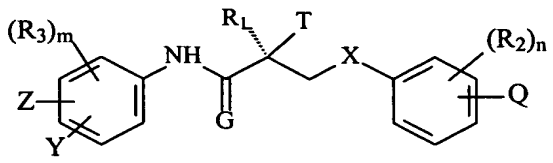
52. A method of treating the recurrence of prostate cancer in a subject suffering from prostate cancer, comprising the step of administering to said subject the selective androgen receptor modulator compound of claim 1, 14, 27 or 40 and/or its analog, derivative, isomer, metabolite, pharmaceutically acceptable salt, pharmaceutical product, hydrate or N-oxide or any combination thereof, in an amount effective to treat the recurrence of prostate cancer in said subject.

53. A method of treating a dry eye condition in a subject suffering from dry eyes, comprising the step of administering to said subject the selective androgen receptor modulator compound of claim 1, 14, 27 or 40 and/or its analog, derivative, isomer, metabolite, pharmaceutically acceptable salt, pharmaceutical product, hydrate or N-oxide or any combination thereof, in an amount effective to treat dry eyes in the subject.

54. A method of preventing a dry eye condition in a subject, comprising the step of administering to said subject the selective androgen receptor modulator compound of claim 1, 14, 27 or 40 and/or its analog, derivative, isomer, metabolite, pharmaceutically acceptable salt, pharmaceutical product, hydrate or N-oxide or any combination thereof, in an amount effective to prevent dry eyes in the subject.

55. A method of inducing apoptosis in a prostate cancer cell, comprising the step of contacting said cell with the selective androgen receptor modulator compound of claim 1, 14, 27 or 40 and/or its analog, derivative, isomer, metabolite, pharmaceutically acceptable salt, pharmaceutical product, hydrate or N-oxide or any combination thereof, in an amount effective to induce apoptosis in said cancer cell.

56. A process for preparing a selective androgen receptor modulator (SARM) compound represented by the structure of formula I:



I

wherein X is a O, NH, S, Se, PR, or NR;

G is O or S;

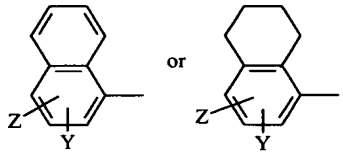
T is OH, OR, -$NHCOCH_3$, or NHCOR;

R is alkyl, haloalkyl, dihaloalkyl, trihaloalkyl, CH_2F, CHF_2, CF_3, CF_2CF_3, aryl, phenyl, halogen, alkenyl or OH;

R_1 is CH_3, CH_2F, CHF_2, CF_3, CH_2CH_3, or CF_2CF_3;

R_2 is F, Cl, Br, I, CH_3, CF_3, OH, CN, NO_2, $NHCOCH_3$, $NHCOCF_3$, NHCOR, alkyl, arylalkyl, OR, NH_2, NHR, NR_2, SR;

R_3 is F, Cl, Br, I, CN, NO_2, COR, COOH, CONHR, CF_3, SnR_3, or R_3 together with the benzene ring to which it is attached forms a fused ring system represented by the structure:



Z is NO_2, CN, COR, COOH, or CONHR;

Y is CF_3, F, Br, Cl, I, CN, or SnR_3;

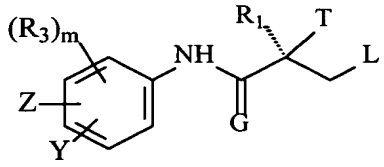
Q is N_3 or $NHCOCH_2Hal$;

Hal is halogen;

n is an integer of 1-4; and

m is an integer of 1-3;

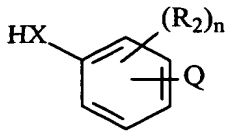
said process comprising the step of coupling a compound of formula VIII:



VIII

wherein Z, Y, G, R_1, T, R_3 and m are as defined above and L is a leaving group,

with a compound of formula IX:

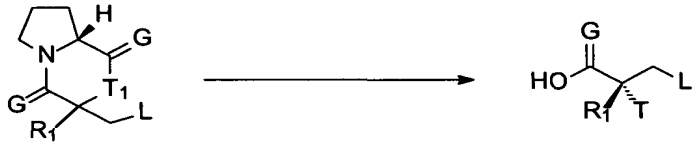


IX

wherein Q, X R_2 and n are as defined above.

57. The process according to claim 56, wherein the compound of formula VIII is prepared by

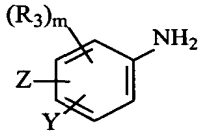
a. preparing a compound of formula X by ring opening of a cyclic compound of formula XI



XI X

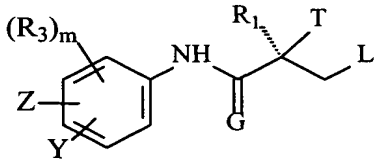
wherein L, R_1, G and T are as defined above, and T_1 is O or NH; and

b. reacting an amine of formula XII:



XII

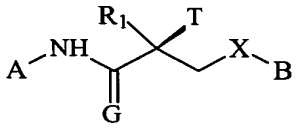
wherein Z, Y, R_3 and m are as defined above, with the compound of formula X, in the presence of a coupling reagent, to produce the compound of formula VIII.



58. The process according to claim 56, further comprising the step of purifying said compound of formula I using a mixture of ethanol and water.

59. The process according to claim 56, further comprising the step of converting said selective androgen receptor modulator (SARM) compound to its analog, isomer, metabolite, derivative, pharmaceutically acceptable salt, pharmaceutical product, N-oxide, hydrate or any combination thereof.

60. A process for preparing a selective androgen receptor modulator (SARM) compound represented by the structure of formula II:



II

wherein X is O, NH, S, Se, PR, or NR;

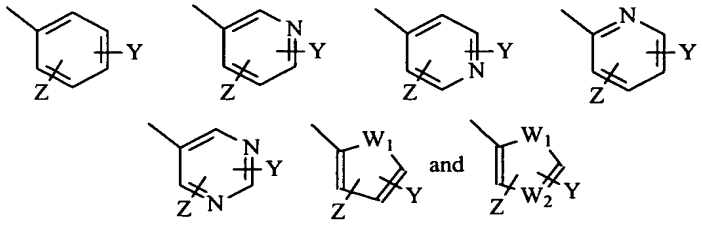
G is O or S;

R_1 is CH_3, CH_2F, CHF_2, CF_3, CH_2CH_3, or CF_2CF_3;

T is OH, OR, -$NHCOCH_3$, or NHCOR;

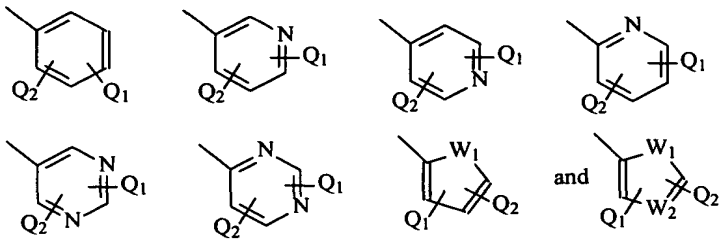
R is alkyl, haloalkyl, dihaloalkyl, trihaloalkyl, CH_2F, CHF_2, CF_3, CF_2CF_3, aryl, phenyl, halogen, alkenyl or OH;

A is a ring selected from:



and

B is a ring selected from:



wherein A and B cannot simultaneously be a benzene ring;

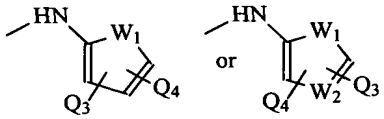
Z is NO_2, CN, COOH, COR, NHCOR or CONHR;

Y is CF_3, F, I, Br, Cl, CN CR_3 or SnR_3;

Q_1 is N_3 or $NHCOCH_2Hal$;

Hal is halogen;

Q_2 is a hydrogen, alkyl, halogen, CF_3, CN CR_3, SnR_3, NR_2, $NHCOCH_3$, $NHCOCF_3$, NHCOR, NHCONHR, NHCOOR, OCONHR, CONHR, $NHCSCH_3$, $NHCSCF_3$, NHCSR $NHSO_2CH_3$, $NHSO_2R$, OR, COR, OCOR, OSO_2R, SO_2R, SR,

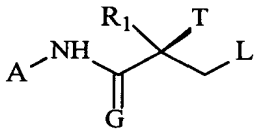


Q_3 and Q_4 are independently of each other a hydrogen, alkyl, halogen, CF_3, CN CR_3, SnR_3, NR_2, $NHCOCH_3$, $NHCOCF_3$, NHCOR, NHCONHR, NHCOOR, OCONHR, CONHR, $NHCSCH_3$, $NHCSCF_3$, NHCSR $NHSO_2CH_3$, $NHSO_2R$, OR, COR, OCOR, OSO_2R, SO_2R or SR;

W_1 is O, NH, NR, NO or S; and

W_2 is N or NO;

said process comprising the step of coupling a compound of formula XIII:



XIII

wherein A, G, R_1 and T are as defined above and L is a leaving group,

with a compound of formula HX-B wherein B and X are as defined above.

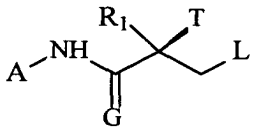
61. The process according to claim 60, wherein the amide of formula XIII is prepared by

a. preparing a compound formula X by ring opening of a cyclic compound of formula XI

XI X

wherein L, R_1, G and T are as defined above, and T_1 is O or NH; and

b. reacting an amine of formula A-NH_2 wherein A is as defined above, with the compound of formula X in the presence of a coupling reagent, to produce the amide of formula XIII.

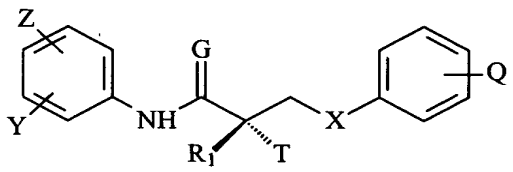


XIII

62. The process according to claim 60, further comprising the step of purifying said compound of formula II using a mixture of ethanol and water

63. The process according to claim 60, further comprising the step of converting said selective androgen receptor modulator (SARM) compound to its analog, isomer, metabolite, derivative, pharmaceutically acceptable salt, pharmaceutical product, N-oxide, hydrate or any combination thereof.

64. A process for preparing a selective androgen receptor modulator (SARM) compound represented by the structure of formula III:



III

wherein X is O, NH, S, Se, PR or NR;

G is O or S;

T is OH, OR, -$NHCOCH_3$, or NHCOR

Z is NO_2, CN, COOH, COR, NHCOR or CONHR;

Y is CF_3, F, I, Br, Cl, CN, CR_3 or SnR_3;

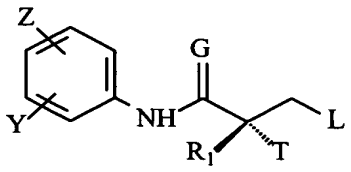
Q_1 is N_3 or $NHCOCH_2Hal$;

Hal is halogen;

R is alkyl, haloalkyl, dihaloalkyl, trihaloalkyl, CH_2F, CHF_2, CF_3, CF_2CF_3, aryl, phenyl, halogen, alkenyl or OH; and

R_1 is CH_3, CH_2F, CHF_2, CF_3, CH_2CH_3, or CF_2CF_3;

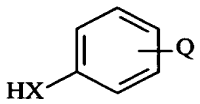
said process comprising the step of coupling a compound of formula XIV:



XIV

wherein Z, Y, G R_1 and T are as defined above and L is a leaving group,

with a compound of formula XV:



XV

wherein Q and X are as defined above.

65. The process according to claim 64, wherein the compound of formula XIV is prepared by

a. preparing a compound formula X by ring opening of a cyclic compound

of formula XI

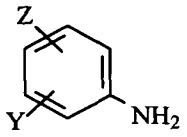
XI X

wherein L, R_1, and T are as defined above, G is O and T_1 is O or NH; and

b. reacting an amine

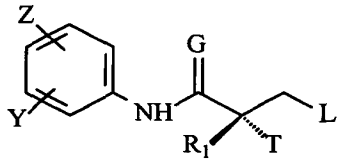
of formula

XVI



XVI

with the compound of formula X in the presence of a coupling reagent, to produce the compound of formula XIV.

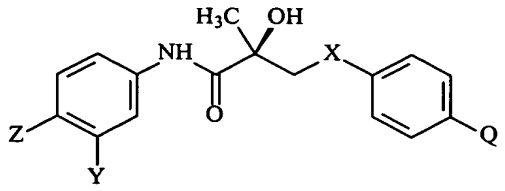


XIV

66. The process according to claim 64, further comprising the step of purifying said compound of formula III using a mixture of ethanol and water

67. The process according to claim 64, further comprising the step of converting said selective androgen receptor modulator (SARM) compound to its analog, isomer, metabolite, derivative, pharmaceutically acceptable salt, pharmaceutical product, N-oxide, hydrate or any combination thereof.

68. The process according to claim 64, wherein said SARM is represented by the structure of formula IV:



IV